

AMENDMENTS TO THE CLAIMS

1 to 22. (Canceled)

23. (Currently Amended) A method of producing an electrolytic capacitor comprising: an anode layer formed of a valve metal foil having through holes formed therethrough and a coarsened surface, a dielectric layer of an oxide film formed by anodizing a part of the surface of the valve metal foil, and a cathode conductive polymer layer formed on the dielectric layer, and an electric collector, wherein the method comprises steps of:

forming the through holes through the valve metal foil;

attaching one electrolyzing electrode to one side surface of the valve metal foil;

immersing the valve metal foil in a conductive monomer solution where an another electrolyzing electrode is disposed in the solution apart from the opposite side of the valve metal foil with respect to the one electrolyzing electrode;

electrolyzing the solution between the one electrolyzing electrode and the another electrolyzing electrode to polymerize the monomer;

generating an electrolytically-formed conductive polymer, starting on the one electrolyzing electrode side;

making the electrolytically-formed conductive polymer grow through the through hole in the thickness direction of the valve metal foil thereby forming a cathode; and

covering the surface of the another electrolyzing electrode side of the oxide film on the valve metal foil by the electrolytically-formed conductive polymer, as the cathode conductive polymer layer and

said electric collector being a metal foil formed on one side of the anode layer via the cathode-side conductive polymer layer.

24. (Previously Presented) The method according to Claim 23, wherein the electrolyzing electrode is a cathode-side conductive polymer layer, the electrolytically-formed conductive polymer layer and the cathode-side conductive polymer layer being used as a cathode layer of the capacitor.

25. (Canceled)

26. (Previously Presented) The method according to Claim 23, wherein the method, prior to the polymerizing step, comprises a step of partly forming a conductive layer on the surface of the dielectric layer.

27. (Previously Presented) A method of producing a laminated electrolytic capacitor, wherein the method further comprises steps of:

laminating a plurality of the electrolytic capacitors produced by the method according to Claim 23 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each electrolytically-formed conductive polymer layer of the laminate.

28. (Previously Presented) A method of producing a laminated electrolytic capacitor, wherein the method comprises steps of:

laminating a plurality of the electrolytic capacitors produced by the method according to Claim 24 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each cathode-side conductive polymer layer of the laminate.

29. (Previously Presented) A method of producing an electrolytic capacitor, wherein the method comprises steps of:

laminating a plurality of the electrolytic capacitors produced by the method according to Claim 25 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each anode valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each cathode electric collector of the

lamine.

30. (Previously Presented) The method of producing an electrolytic capacitor according to Claim 27, wherein the method further comprises a step of anodizing a part of the anode valve metal foil again, after the metal surface portion is connected to the anodic wiring electrode and before one of the electrolytically-formed conductive polymer layer, the cathode-side conductive polymer layer and the cathode electric collector is electrically connected to the cathodic wiring electrode.

31. (Previously Presented) The method of producing an electrolytic capacitor according to Claim 23, wherein the method further comprises a step of winding an electrolytic capacitor in the shape of a coil.

32. (Previously Presented) The method of producing an electrolytic capacitor according to Claim 31, wherein the method further comprises a step of anodizing a part of the anode valve metal foil again, after the electrolytic capacitor is wound in the shape of coil.

33. (Previously Presented) The method according to claim 23 wherein said valve metal foil comprises aluminum.

34. (Previously Presented) The method according to claim 23 wherein said valve metal foil comprises tantalum.

35. (Previously Presented) The method according to claim 23 wherein said valve metal foil comprises niobium.

36. (Canceled)